

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-66. (Canceled)

67. (New) A method for electro-statically chucking an object comprising:

providing a stage including a dielectric block having a chucking electrode, a chucking surface and a concave, wherein the concave includes a heat-exchange concave for promoting heat-exchange under increased pressure having a depth in a range of 1 to less than 20 μm , and a gas-diffusion concave deeper than the heat-exchange concave for diffusing a heat-exchange gas to the heat-exchange concave;

placing the object on the chucking surface such that the concave is closed by the object;

applying voltage to the chucking electrode to chuck the object; and

introducing helium gas into the concave as the heat exchange gas to control a temperature of the object while increasing pressure in the concave.

68. (New) A method as claimed in claim 67, wherein the chucking surface contacts the object with a contact area in the range of 3-20% relative to a surface area of the object facing the stage.

69. (New) A method as claimed in claim 67, wherein the gas-diffusion concave has an area on the chucking surface in a range of 5-30% relative to a surface area of the object facing the stage.

70. (New) A method as claimed in claim 67, wherein the gas-diffusion concave has a depth in a range of 50-1,000 μm .

71. (New) A method as claimed in claim 67, and further comprising:

providing gas introduction channels having outlets that are wider than the gas-diffusion concave;

spacing the outlets at equal angles around a circumference that is coaxial with the center of the stage; and

introducing the helium gas into the gas-diffusion concave through the outlets.

72. (New) A method as claimed in claim 71, and further comprising:

disposing lift pins for receiving and passing the object in the gas introducing channels; and

introducing the helium gas to the concave only through the gas introducing channels in which the lift pins are disposed.